



State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY

Michael O. Leavitt
Governor

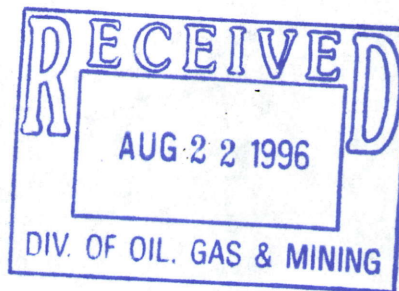
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August 14, 1996

CERTIFIED MAIL
(RETURN RECEIPT REQUESTED)



Paul Spor, General Manager
North Lily Mining Company
P.O. Box 421
Eureka, UT 84628

Dear Mr. Spor:

Subject: Permit Extension; Duty to Reapply; Permit No. UGW230001; Grading and Contouring Proposal

The Ground Water Quality Discharge Permit for the North Lily Heap Leach Facility, Permit No. UGW230001, expired on May 28, 1996. Although we received your April 26, 1996 request for permit renewal, the supporting renewal information including a closure plan has not been submitted. Our preference would be to issue the renewed permit based on a complete closure proposal. For the record a complete closure proposal would include a regrading and contouring plan, a neutralization plan, a cover design, a revegetation plan, a leachate management strategy and a fluid disposal plan. We do, however, acknowledge receipt of your July 12, 1996 contour and grading proposal, and will comment on that item below.

In order to provide you time to compile the necessary information, operation of the facility under the conditions of the original permit is authorized until November 28, 1996. In order to have a final draft permit prepared by October 28, 1996 for public notice, it will be necessary for you to submit the closure plan on or before September 28, 1996, to allow sufficient time for us to prepare the proposed permit. At the discretion of the Executive Secretary any incomplete items may be considered compliance items for incorporation into the permit.

Your July 12, 1996 letter proposes certain criteria be met to demonstrate that neutralization has been achieved. The methodology you propose would be sufficient to determine "hot spots" for targeted neutralization efforts, but in general would not be useful for determining the overall success of neutralization. The proposed methodology for determining neutralization does not conform to our usual procedure, which is to assess the quality of the leachate at the point it runs off the heap. The proposal is also insufficient in that it lacks details concerning how the liquid

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will be extracted from the samples and how the samples will be analyzed (lab method). Based on the latest data from your quarterly reports which indicate Cyanide-WAD concentrations of 156 mg/l, along with significant metal concentrations above ground water standards, it is apparent that significant effort will still be necessary for the facility to achieve closure. This may include fresh water rinsing and/or chemical addition to reduce cyanide concentrations to acceptable levels. The proposed BAT to achieve neutralization of cyanide and the stabilization of metals should be submitted as part of the closure plan discussed above.

The current ground water permit does not dictate specific criteria to be achieved for facility closure. These requirements were not included in your permit since the intent was to meet current standards at the time of closure. Our current policy requires operators to employ Best Available Technology (BAT) with the goal that any leachate generated would have concentrations less than ground water quality standards. Because this goal cannot often be achieved for all potential pollutants, alternative closure standards are usually established. Facilities are required to employ a reasonable BAT effort and once it can be demonstrated that ground water quality standards can not be economically achieved, then an environmental assessment is performed to determine if the neutralization levels achieved have the potential to impact ground water. The analysis of potential ground water impact includes infiltration modeling to determine the long term average infiltration on a yearly basis. Given the neutralization levels achieved and the flow volume from the infiltration modeling, the impact to ground water is estimated utilizing ground water modeling. Given the characteristics of your site in terms of depth to ground water and geology it is likely that neutralization levels somewhat in excess of ground water quality standards will not significantly impact ground water in the area. This all assumes the placement of a satisfactory cover and the establishment of vegetative growth that will reduce the volume of precipitation that infiltrates through the heap.

An additional consideration involves the management of infiltration water by routing the water through a passive biosystem reactor and into a drain field. Sampling ports and continuous flow measurement capability are usually incorporated into this type of system.

We have reviewed your contouring and grading proposal and have the following concerns:

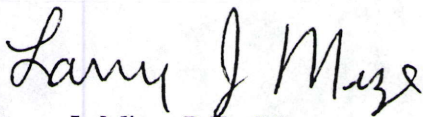
- 1) A perforated pipe should be placed on top of the fine material in the bottom of the ditch then covered with coarse gravel and a filter fabric. This system will be more effective in the long term than your proposal.
- 2) The proposed contour map shows an area that is relatively flat between two mounds on the east and west side of the facility. It does not appear to be possible to attain a 3 to 5 percent slope between equal elevation contours spaced approximately 350 feet apart. The entire regraded heap must be sloped to drain and the potential for ponding must be eliminated. Perhaps your proposal should include cross sections across the entire facility, i.e. north to south and east to west.

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Based on the above, your contouring proposal is not sufficient for us to approve in its current form. Based on your desire to begin contouring this season, we suggest you resubmit the proposal based on the above and we will attempt to expeditiously review it. In closing, we would also appreciate an indication from you whether or not you will be able to submit a full closure plan by September 28, 1996.

If you have any questions concerning this letter please contact Dennis Frederick or myself at 801-538-6146.

Sincerely,



Larry J. Mize, P.E., Manager
Ground Water Protection Section

LJM:DAF:wfm

cc: Tom Munsen, DOGM
Roger Foisy, District Engineer
Central Utah District Health Department
Dave Rupp, DWQ